

# Work Order ID 57548



Page 1

April 8, 2010 9:20:54 AM

Item ID: D3290-041

Accept



Setup Start



Revision ID:

Item Name: Replacement Window Assembly

Stop



Start Date: 4/08/10 Start Qty: 8.00



Cust Item ID:

Required Date: 4/16/10 Req'd Qty: 8.00

Customer:

Reference:

Approvals:

Process Plan:

*[Signature]*

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

D3290

DEO Rev C1

100

0.00



FLOW WATER JET

Waterjet

Memo

0.00

FLOW CNC Waterjet

1-Cut as per Dwg D3290 ( use prog. for D3290-1)

Dwg Rev: C1

Prog Rev: C1

2-Deburr if necessary

6061 .063

13 10-4-13

8

Pho ->

110

QC2- Inspect parts off machine FAI/FAIB

0.00



QC

Memo

0.00

Quality Control

13 10-4-13

120

QC8- Inspect parts - second check

0.00



QC

Memo

0.00

Quality Control

Solent 14

19

# Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D3290-041 PAR #: \_\_\_\_\_ Fault Category: Small Part w/ Jet NCR: Yes No DQA: \_\_\_\_\_ Date: 10/04/13  
 Resolution: Scrap Disposition: Scrap QA: N/C Closed: Yes Date: 10/04/19

NCR: 57548		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
10/4/13	100	Found at inspection that Qty 1 Part moved while the water jet was cutting out the outside profile. Part is too short.	<u>OSU12</u>	<u>Scrap + destroy Qty 1</u> <u>replace</u>	<u>10-4-13</u>	<u>10/04/14</u>	<u>OSU12</u>	<u>10/04/13</u>
		In width + length by 1/16" of an inch. R.C. process.	<u>OSU12</u>	<u>water jetten more extra 1</u>				

NOTE: Date & initial all entries

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Required Date: 4/16/10 Req'd Qty: 8.00



Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Chemical Conversion Coat per QSI005 4.1	0.00				9	0	BR 10-4-14.	
	HandFinish	0.00							
	Hand Finishing								
140	White Gloss(Ref:4.3.5.) per QSI005 4.3-Alum	0.00							
	11/14207								
	Memo	0.00							
	START TIME: 11:30 AM								
	OVEN TEMPERATURE: 320 °F								
	FINISH TIME: 12:00 PM								
150	QC3- Inspect Part Finish	0.00							
	QC	0.00							
	Quality Control								

=> JU 10/04/14

X9 0

9 0 BR 10-4-14

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



W/O: 57548		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
10/11/16	160	stock 1 Crane 832901 done using B/W 57548			1	U 10/11/16	S 10/11/16

Part No: D3290-041 PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

**Work Order ID 57548**

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Item ID: D3290-041

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Setup Start



Revision ID:

Stop



Item Name: Replacement Window Assembly

Start Date: 4/08/10 Start Qty: 8.00



Cust Item ID:

Required Date: 4/16/10 Req'd Qty: 8.00



Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run HoursDraw  
NumberDraw  
Rev.Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

190

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

10/04/19 *[Signature]*MF  
10-4-19

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

April 8, 2010 9:20:53 AM

Page 1

Work Order ID: 57548

Parent Item: D3290-041

Parent Item Name: Replacement Window Assembly

Start Date: 4/08/10

Required Date: 4/16/10

Comments: IPP B05.05.25 Added Step 11 KJ/JLM

Start Qty: 8.00

Required Qty: 8.00

IPP C06.05.09 Ecn 798 EC

IPP Rev:D Now on Waterjet 06-06-16 JLM

IPP rev E rev C dwg 07.09.28 EC verified by: DD

M6061T6S.063 Purchased No 100 sf 207.0000 31.5789



6061-T6 .063 Sheet

1810-4-13

## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

MAT21

207

113608

207

D2126

Manufactured No

160

f

37.0000

52.0000



Seal

113608

SAA

10-04-16

8

## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

ST405

37

48285

37

(D2126-0780) cut qty (1) at 78.00" as per dwg

\*\*\*per kit\*\*\*

D3290-3

Manufactured No

160

Each

1.0000

8.0000



Window

52.00

SAA

10-04-16

## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

ST221

1

55046

1

B57744

7



**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

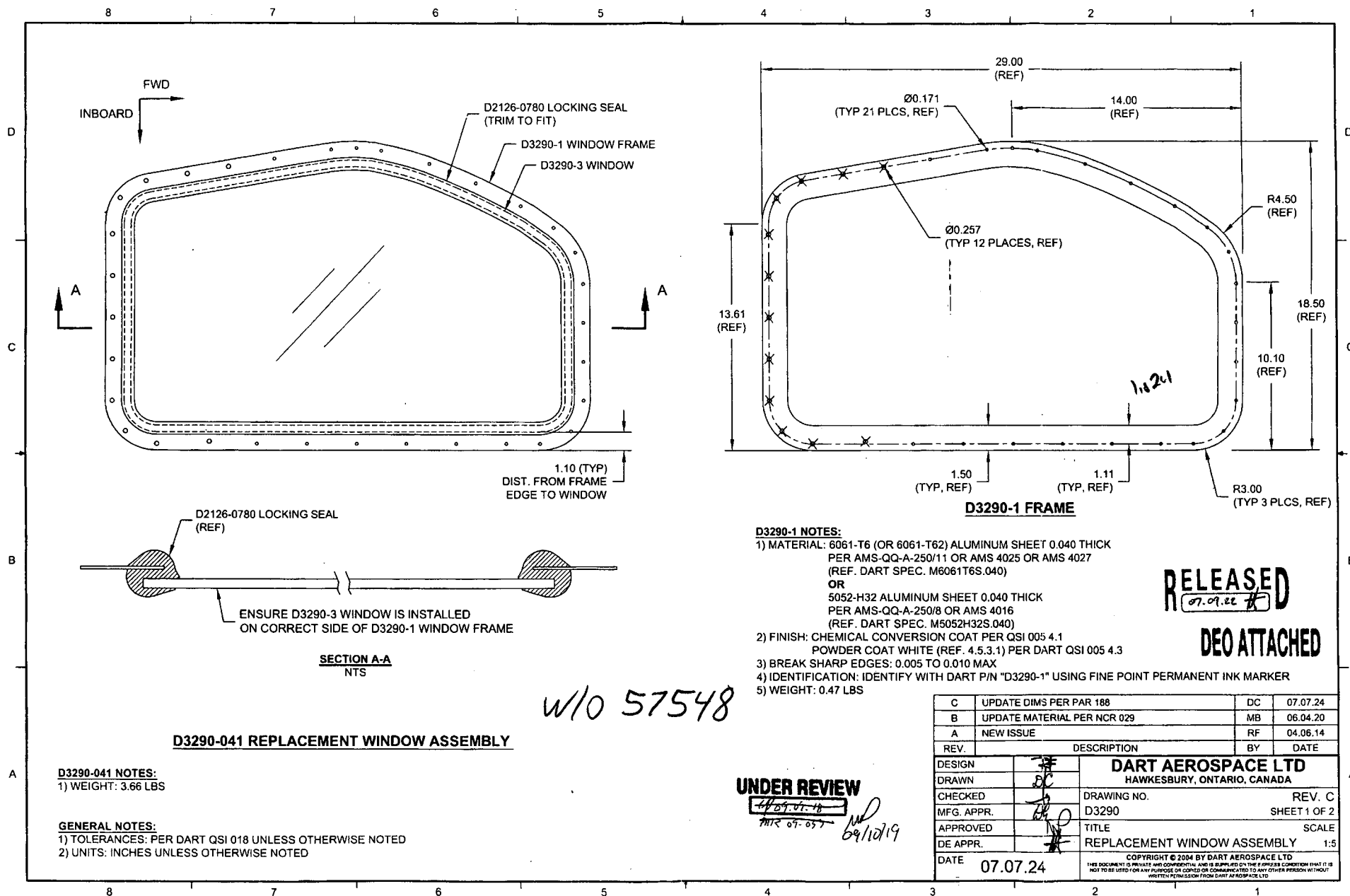
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



## 5S continued...

- **Standardize (Seiketsu) (清潔):** Standardizing. This refers to standardized work practices. This means operating in a consistent and standardized fashion. Everyone knows exactly what his or her responsibilities are.
- **Sustain (Shitsuke) (躰):** Sustaining. Refers to maintaining and reviewing standards. Once the previous 4S's have been established they become the new way to operate. Maintain the focus on this new way of operating, and do not allow a gradual decline back to the old ways of operating.





The value adding parts of the process are obvious, so companies mistakenly focus on trying to make them go faster. The waste is not obvious, so it is not addressed. Lean focuses on eliminating the waste.

Lean is ongoing, there is no end to the search  
for  
waste!

W/057548

# D3290-3 WINDOW

B

## D3290-3 NOTES:

- 1) MATERIAL: POLYCAST II CLEAR ACRYLIC SHEET PER MIL-P-5425  
OR PLEXIGLAS G CLEAR CAST ACRYLIC SHEET PER  
LP-391 TYPE 1 GRADE C, 0.125 THICK  
(REF. DART SPEC. M-ACRYLIC-S.125)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) REMOVE SHARP EDGES
- 6) IDENTIFICATION: ENGRAVE P/N "D3290-3" AND B/N ON LOWER EDGE  
USE 0.125" HIGH LETTERS TO MAXIMUM DEPTH OF 0.005"
- 7) WEIGHT: 1.87 +/- 0.42 LBS
- 8) MOLD PER DART TOOL DT8567

DESIGN	<del>32</del>	DART AEROSPACE LTD	
DRAWN	<del>JK</del>	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<del>JK</del>	DRAWING NO.	REV. C
MFG. APPR.	<del>JK</del>	D3290	SHEET 2 OF 2
APPROVED	<del>JK</del>	TITLE	SCALE
DE APPR.	<del>JK</del>	REPLACEMENT WINDOW ASSEMBLY 1:	
DATE	07.07.24	COPYRIGHT © 2004 BY DART AEROSPACE LTD	
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UNDER REVIEW  
07.07.18  
DEO ATTACHED  
RELEASED  
07.07.22



# 7 deadly wastes

***1. Overproduction***

***2. Rework***

***3. Transportation***

***4. Inappropriate / over Processing***

***5. Unnecessary Inventory***

***6. Delays / Waiting***

***7. Unnecessary Motions***



DRAWING NO. D3290	TITLE REPLACEMENT WINDOW ASSEMBLY	REV. C	DART AEROSPACE LTD ENGINEERING ORDER		D.E.O. NO. D3290-C-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>qp</i>	CHECKED <i>ls</i>	MFG. APPR. <i>E</i>	APPROVED <i>MP</i>	DE APPR. <i>MP</i>			
DATE 09.09.18	DATE 09.09.18	DATE 09.09.18	DATE 09/09/21	DATE 09/09/21			

**PURPOSE:**

CHANGE MATERIAL THICKNESS OF D3290-1 FRAME TO 0.063 FROM 0.040. REF PAR 09-033.

**CHANGE:**

MATERIAL CALL-OUT OF D3290-1 FRAME ON SHEET 1 IS AMENDED AS FOLLOWS:

**D3290-1 NOTES**

- 1) MATERIAL: 6061-T6 (OR 6061-T62) ALUMINUM SHEET ~~0.040 THICK~~ 0.063 THICK (REPLACE)  
 PER AMS-QQ-A-250/11 OR AMS 4025 OR AMS 4027  
~~(REF. DART SPEC. M6061T6S.040)~~ REF. DART SPEC. M6061T6S.063 (REPLACE)  
 OR  
 5052-H32 ALUMINUM SHEET ~~0.040 THICK~~ 0.063 THICK (REPLACE)  
 PER AMS-QQ-A-250/8 OR AMS 4016  
~~(REF. DART SPEC. M5052H32S.040)~~ REF. DART SPEC. M5052H32S.063 (REPLACE)

*w/o 57548*

**RELEASED**  
 2009 -10- 09

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 NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT  
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# 5S basics

- **Sort (Seiri) (整理):** Sorting. Refers to the practice of going through all the tools, materials, etc., in the work area and keeping only essential items. Everything else is stored or discarded. This leads to fewer hazards and less clutter to interfere with productive work.
- **Set in order (Seiton) (整頓):** Simplifying. Focuses on the need for an orderly workplace. "Orderly" in this sense means arranging the tools and equipment in an order that promotes work flow. Tools and equipment should be kept where they will be used, and the process should be ordered in a manner that eliminates extra motion.
- **Shine (Seisō) (清掃):** Sweeping, Systematic Cleaning, or Shining. Indicates the need to keep the workplace clean as well as neat. At the end of each shift, the work area is cleaned up and everything is restored to its place. The key point is that maintaining cleanliness should be part of the daily work - not an occasional activity initiated when things get too messy.